CONTENTS

(Abstracted/Indexed in: Biol. Abstr., CABS (Current Awareness in Biological Sciences), Chem. Abstr., Curr. Contents AB & ES, EH & S Digest, Environ. Period. Bibliogr., Excerpta Med., Focus On: Global Change, Geo Abstr., Meteorol. & Geoastrophys. Abstr., Oceanogr. Lit. Rev., PASCAL/CNRS, Selected Water Resour. Abstr.)

Special Issue: The Deterioration of Monuments.

Preface ix

Physical and Chemical Weathering

Physical weathering of stones
D. Camuffo 1
Deposition of atmospheric pollutants to monuments, statues, and buildings
D.A. Dolske 15
Source contributions to airborne particle deposition at the Yungang Grottoes, China
L.G. Salmon, C.S. Christoforou, T.J. Gerk, G.R. Cass, G.S. Casuccio, G.A. Cooke, M. Leger, I. Olmez 33
Contribution of atmospheric deposition to the formation of damage layers
C. Sabbioni 49
Sulphur and nitrogen particulate pollutant deposition on to building surfaces
R.S. Hamilton, D.M. Revitt, K.J. Vincent, R.N. Butlin 57
Deposition of particulate matter on stone surfaces: an experimental verification of its effects on Carrara marble
M. Realini, R. Negrotti, L. Appollonia, D. Vaudan 67
Weathering of Leinster granite under ambient atmospheric conditions
H. Sweevers, A. Peeters, R. Van Grieken 73
Nature and decay effects of urban soiling on granitic building stones
N. Schiavon, G. Chiavari, G. Schiavon, D. Fabbri 87
Role of mortars in the decay of granite
P.F. O'Brien, E. Bell, S.P. Santamaria, P. Boyland, T.P. Cooper 103
Stone loss rates at sites around Europe
P.F. O'Brien, E. Bell, T.L.L. Orr, T.P. Cooper 111
Marine aerosol and stone decay
F. Zezza, F. Macrì 123
Aspects of the deterioration of sandstone masonry in Anasazi dwelling ruins at Mesa Verde National Park, Colorado, USA
W.T. Petuskey, D.A. Richardson, D.A. Dolske 145
Principles of computerised X-ray tomography and applications to building materials
P. Jacobs, E. Sevens, M. Kunnen 161
Colorimetric cataloguing of stone materials (biolcalcarenite) and evaluation of the chromatic effects of different restoring agents
J. Durán-Suárez, A. García-Beltrán, J. Rodríguez-Gordillo 171
The arch of Galerius in Salonica. Problems created by pollution, methodology of intervention, works of conservation
N. Beloyannis, E. Mirtsou 181
New findings on past treatments carried out on stone and marble monuments' surfaces
V. Fassina 185

Biodeterioration

Biodeterioration of monuments in relation to climatic changes in Rome between 19–20th centuries
G. Caneva, E. Gori, T. Montefinale 205
Bioreceptivity: a new concept for building ecology studies
O. Guillitte 215
Microbiological analysis of mortars from the church of San Juan del Mercado at Benavente, Spain
G. Arroyo, I. Arroyo, C. Vivar 221
Microbial communities and alteration processes in monuments at Alcala de Henares, Spain
G. Gómez-Alarcón, B. Cilleros, M. Flores, J. Lorenzo 231
The application of fatty acid methyl ester analysis (FAME) for the identification of heterotrophic bacteria present in decaying Lede-stone of the St. Bavo Cathedral in Ghent
P. Descheemaeker, J. Swings 241
Microbial communities in weathered sandstones: the case of Carrascosa del Campo church, Spain
G. Gómez-Alarcón, M. Muñoz, X. Ariño, J.J. Ortega-Calvo 249
Role of fungi in the deterioration of wall paintings
K.L. Garg, K.K. Jain, A.K. Mishra 255
Microbial melanins in stone monuments
C. Saiz-Jimenez 273
On the isolation of microcolonial fungi occurring on and in marble and other calcareous rocks
U. Wollenzien, G.S. de Hoog, W.E. Krumbein, C. Urz 287
Black fungi in marble and limestones — an aesthetical, chemical and physical problem for the conservation of monuments
E. Diakumaku, A.A. Gorbushina, W.E. Krumbein, L. Panina, S. Soukharjevski 295
The chemical structure of fungal melanins and their possible contribution to black stains in stone monuments
C. Saiz-Jimenez, J.J. Ortega-Calvo, J.W. de Leeuw 305
Hyphal-sheath polysaccharides in fungal deterioration
A. Gutiérrez, M.J. Martínez, G. Almendros, F.J. González-Vila, A.T. Martínez 315
Factors affecting the weathering and colonization of monuments by phototrophic microorganisms
J.J. Ortega-Calvo, X. Ariño, M. Hernandez-Marine, C. Saiz-Jimenez 329
Colonization by lichens of granite churches in Galicia (northwest Spain)
B. Prieto Lamas, M.T. Rivas Brea, B.M. Silva Hermo 343
Lichen colonization of the Roman pavement at Baelo Claudia (Cadiz, Spain): biodeterioration vs. bioprotection
X. Ariño, J.J. Ortega-Calvo, A. Gomez-Bolea, C. Saiz-Jimenez 353
Laboratory chamber studies and petrographical analysis as bioreceptivity assessment tools of building materials
O. Guillitte, R. Dreesen 365
Role of higher plants in the deterioration of historic buildings
A.K. Mishra, K.K. Jain, K.L. Garg 375

Author index 393

Subject index 395